COSTS OF INSTRUCTION IN THE HIGH SCHOOLS OF WEST VIRGINIA[1]

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THE METHOD OF THE INVESTIGATION

In September, 1916, a questionnaire was mailed to the 75 high schools in West Virginia which were listed in the *Educational Directory* of the state superintendent of free schools for 1915–16 as high schools of the first class. These are four-year high schools with courses of study, equipment, and quality of instruction of such nature as to warrant their being considered as a homogeneous group. By this means the following information was secured from 57 high schools:

1. Name of high school..... 2. Location.....
3. Number of students enrolled.....
4. Salary of superintendent..... 5. Salary of principal.....
6. Length of school term.....
7. Number of classes taught by superintendent.....
8. Number of classes taught by principal....

In addition to the foregoing the following information was secured for each of the various subjects:

a) Total number of pupils taking the subject
b) Number of classes, or class divisions
c) Length of recitation period
d) Number of times a class meets each week
e) Total cost of instruction in the subject

Certain aspects of the method of deriving the total cost of instruction in a subject are perhaps worthy of attention. In the first place, no account was taken of such activities as keeping study-hall or holding conference periods. It has been the experience and

[1] The present article is based on a Master's thesis which was submitted by the writer to the University of Chicago in March, 1917. It purports to give no more than a brief summary of the method of the investigation, of the treatment of the data, and of the conclusions.

observation of the writer that these activities have not yet become problems of much importance in the internal organization of the high schools in West Virginia. It was assumed, therefore, that these activities were a part of each teacher's work and that they were fairly evenly distributed among the teachers of a given school; it was also assumed that were these activities taken into consideration costs would be uniformly decreased in all the subjects in all the high schools.

Secondly, the cost of instruction in a subject was computed on the basis of the course unit rather than on the basis of the time unit. That is to say, if a teacher of mathematics and science was conducting two classes for periods of 45 minutes each in the former subject and two classes for periods of 60 minutes each in the latter, his salary was apportioned equally between the two subjects. The reason for this was that the credit received by a pupil who does a year's work in mathematics is the same as that which is received by him in a year's work in science. The assumption was made that the "unit" of instruction is of equal importance in either subject, and that the teacher renders the same service to the school and the community in teaching a course in mathematics as in teaching a course in science.

The method of computing the cost per unit of instruction.—For purposes of comparison, the cost of instruction in each subject was computed in terms of cost rate per 1,000 student-hours, that is, one student attending class for 1,000 hours. The method was as follows: The length of class-period was reduced to a fraction of an hour and multiplied by the number of class meetings each week times the number of weeks in the school year. This product, which represents the length of time the class meets during the year, times the number of students taking the subject gives the total number of student-hours of instruction. Reducing to thousand student-hours and dividing into the total cost of instruction in the subject gives the cost of 1,000 student-hours of instruction in that subject.

THE COST OF 1,000 STUDENT-HOURS OF INSTRUCTION

The cost of 1,000 student-hours of instruction in each of the various subjects is shown for each high school in Table I. From

this table it may be noted that the variation in cost for equal amounts of instruction in the same subject among the various high schools as well as for equal amounts of instruction in different subjects within the same high school is most striking. We note that Bluefield is paying for 1,000 student-hours of instruction in English $42.18, and that for the same amount of instruction Benwood is paying approximately one and one-half times as much, and East Bank twice as much. The figures do not justify the assumption that the quality of the instruction in Benwood is 50 per cent superior to that given in Bluefield, or that it is 25 per cent inferior to that given in East Bank. In all probability the quality of the instruction in the three high schools is approximately equal. On the basis of the quality of the instruction given the three high schools have been accorded equal recognition in the classification by the state department of education, and their graduates are received on equal terms by the state university. Variation in the cost for equal amounts of instruction in modern language, Latin, and mathematics is still more apparent than in English, while the variation in cost among the various subjects in the same high school needs hardly to be pointed out.

THE IMPORTANCE OF THE FACTORS WHICH DETERMINE THE COST OF INSTRUCTION

The factors which determine the cost of instruction have been already indicated in the description of the method of computing the unit cost of a given subject. They comprise (1) the time devoted to the subject, (2) the salary of the teacher and the number of classes per teacher, and (3) the number of students taking the subject. Variations in unit costs among a number of high schools or within the same high school are determined by variations in one or more of these three factors. To increase the salary of the teacher is to produce a corresponding increase in the cost of instruction, while an increase in the time devoted to a subject or in the number of students taking the subject results in either case in a corresponding decrease in cost. The factor of largest significance is not the one whose influence is greatest in determining costs—the three factors exert equal influence in this respect—but the factor

TABLE I

THE COST OF 1,000 STUDENT-HOURS OF INSTRUCTION IN EACH OF THE VARIOUS SUBJECTS

School	English	Modern Language	Latin	Mathematics	Science	Agriculture	History	Commercial Subjects	Household Occupations	Shopwork	Normal Training
Belington	$ 52.98	$130.21	$ 77.77	$ 45.05	$ 53.33	.....	$ 51.19	.....	.....	.....	.....
Benwood	66.85	59.26	222.22	116.30	88.89	.....	38.52	$111.10	$118.52	.....	.....
Bluefield	42.18	41.15	36.14	36.48	42.54	.....	32.21	68.91	42.61	$ 69.44	.....
Buckhannon	44.70	47.62	47.62	42.49	31.95	$ 51.28	48.03	.....	32.45	.....	.....
Ceredo	46.17	75.56	118.31	61.83	56.67	.....	92.34	113.33	90.66	.....	.....
Chester	44.74	101.33	93.33	50.00	71.07	.....	53.33	.....	.....	.....	.....
Clarksburg	45.09	64.99	52.29	44.44	32.77	61.43	41.67	59.52	47.47	38.99	.....
Clay County	74.56	98.76	134.61	87.16	40.48	211.64	115.23	.....	86.67	61.73	$111.11
Clendenin	43.48	101.50	67.57	47.24	54.01	.....	53.28	.....	57.87	.....	.....
Davis	52.17	92.75	28.83	38.09	53.34	.....	69.74	120.00	42.09	51.85	.....
East Bank	88.88	74.08	78.41	55.55	71.89	80.81	104.58	.....	74.07	.....	.....
Edgewood	34.15	65.91	54.59	55.56	39.67	205.07	50.04	67.51	48.86	39.52	.....
Elkins	54.52	50.27	47.25	48.91	39.71	.....	48.00	.....	60.27	32.79	.....
Fairmont	53.61	40.88	45.36	30.38	43.26	31.15	33.68	29.69	55.72	50.00	.....
Fairview	82.69	61.73	185.18	91.17	108.41	168.35	167.44	No data	.....	.....	.....
Farmington	53.51	125.49	76.19	55.56	53.73	.....	72.29	.....	95.75	.....	.....
Grafton	36.05	50.12	109.09	50.39	36.56	30.87	39.76	48.80	58.03	.....	.....
Hillsboro	61.54	80.00	.....	99.53	94.28	113.96	139.38	92.59	112.28	.....	202.02
Hinton	39.22	53.68	52.09	51.34	51.85	37.67	40.04	.....	60.60	95.24	148.15
Keyser	44.61	66.67	40.82	46.29	39.65	105.82	25.73	No data	No data	No data	.....
Mannington	51.81	54.24	77.97	66.67	59.15	.....	63.85	.....	75.97	116.40	.....
Martinsburg	31.82	75.00	56.25	48.75	46.88	.....	46.25	75.00	.....	.....	.....
Morgantown	49.11	63.79	58.46	53.23	68.71	.....	54.12	64.90	48.61	46.51	.....
Moundsville	43.12	53.76	54.51	48.41	55.56	.....	51.61	80.81	.....	.....	.....
Nicholas County	50.37	.....	35.42	59.13	30.27	92.59	44.67	.....	93.20	71.69	108.11
New Martinsville	40.99	80.00	56.25	69.83	55.56	40.28	47.68	83.33	39.18	.....	.....
Oak Hill	32.00	80.00	45.71	50.56	47.62	69.44	22.22	.....	83.87	No data	56.66
Parkersburg	57.92	65.91	79.14	63.45	56.25	.....	71.48	39.05	46.99	92.85	73.71
Parsons	38.09	41.48	113.33	31.11	108.39	98.77	49.97	130.74	47.22	70.83	211.64
Piedmont	46.03	135.94	139.86	46.96	31.87	.....	71.60	46.69	230.16	.....	.....
Point Pleasant	62.75	83.95	118.52	52.29	82.96	.....	60.27	No data	No data	.....	.....
Princeton	39.35	42.74	197.53	48.46	49.36	.....	50.11	67.34	117.88	.....	.....
Ravenswood	38.55	75.55	58.22	56.69	48.98	.....	40.82	.....	.....	.....	.....
Richwood	39.22	52.27	39.47	70.61	58.48	46.29	54.90	41.06	.....	.....	No data
St. Albans	76.54	131.11	100.31	51.85	65.84	.....	115.00	66.67	128.00	141.67	.....
St. Marys	39.51	66.67	117.65	57.14	39.89	74.75	66.31	.....	.....	.....	.....
Salem	55.43	63.68	120.54	46.77	68.18	246.91	138.88	83.33	53.57	.....	.....
Shinnston	58.45	47.06	67.85	54.32	60.28	208.33	80.00	.....	63.33	76.92	.....
Sistersville	36.44	43.29	38.85	51.80	48.13	.....	41.85	.....	.....	.....	.....
Spencer	43.32	58.96	65.48	44.33	73.89	48.08	55.56	95.48	69.44	No data	104.16
Sutton	39.04	.....	85.72	49.38	44.44	No data	36.36	.....	41.15	98.76	161.03
Thomas	41.15	81.02	85.46	45.01	78.50	32.79	34.12	199.08	74.91	76.10	.....
Webster Springs	95.69	150.00	120.14	98.70	74.07	.....	74.56	46.27	187.50	208.33	294.64
Welch	51.66	61.66	90.65	58.33	48.41	.....	52.31	133.33	88.88	.....	.....
Wellsburg	50.00	57.22	85.03	66.13	58.65	.....	108.33	150.00	90.00	51.00	.....
West Milford	107.78	.....	150.00	102.56	170.94	246.91	118.94	.....	.....	.....	.....
Williamson	85.09	.....	70.37	41.82	48.02	.....	84.54	256.19	100.00	105.22	.....
Williamstown	61.19	161.11	59.97	50.79	70.49	68.15	60.38	.....	.....	.....	.....

whose variation is greatest either within the same high school or among a number of high schools.

Considering then variation as the criterion of significance, it becomes clearly evident that the time devoted to a given subject is of very little importance in determining the cost of 1,000 student-hours of instruction in a given high school, or of explaining the wide variation in cost among a number of high schools. To show what relation exists between the cost of 1,000 student-hours of instruction in a subject and the time devoted to it Table II is here presented, which shows the relationship for English and science, the two subjects in which, respectively, there exists the least and the widest variation in length of recitation period.

For convenience the high schools have been divided for each subject into six groups of eight each in the order of the prices paid per 1,000 student-hours of instruction in each subject. The first half of the table should be read: The average cost per 1,000 student-hours of instruction in English in the eight high schools which pay the highest prices for English instruction is $84.76; the average length of recitation period in the same high schools is 45 minutes; the average cost in the second group of eight high schools is $58.18; and so on. The second half of the table, which gives the data for science, should be read in the same way.

TABLE II

THE RELATION BETWEEN THE COST OF 1,000 STUDENT-HOURS OF INSTRUCTION IN ENGLISH AND SCIENCE AND THEIR RESPECTIVE PERIOD LENGTHS

ENGLISH			SCIENCE		
Group	Average Cost per 1,000 Student-Hours	Average Length of Recitation Period (in Minutes)	Group	Average Cost per 1,000 Student-Hours	Average Length of Recitation Period (in Minutes)
1	$84.76	45	1	$100.80	46
2	58.18	45	2	68.79	53
3	51.45	44	3	56.79	56
4	44.77	44	4	50.89	50
5	40.59	45	5	44.14	56
6	35.77	50	6	35.31	67

The lack of relationship between the cost of instruction in English and the time devoted to it is evident. For the subject of sci-

ence a certain relationship is found to exist; it is of such a nature, however, as to warrant the conclusion that the time devoted to a subject is a negligible factor in determining the price which a community pays for instruction.

The relation between unit costs in English and the average salary of teachers is shown in Table III. The high schools are shown grouped with reference to two co-ordinates, of which one provides the scale of cost per 1,000 student-hours of instruction, and the other the scale of the average salary of teachers. The

TABLE III

THE RELATION BETWEEN THE COST OF 1,000 STUDENT-HOURS OF INSTRUCTION IN ENGLISH AND THE AVERAGE SALARY OF TEACHERS

Cost of 1,000 Student-Hours (in Dollars)	Average Salary of Teachers (in Dollars)									
	675 to 700	700 to 725	725 to 750	750 to 775	775 to 800	800 to 825	825 to 850	850 to 875	875 to 900	900 to 925
30– 35	.....	1	.....	.....	.....	2	.....	.....	.....	.....
35– 40	.....	2	.....	2	.....	4	.....	.....	.....	.....
40– 45	2	4	.....	2	.....	.....	.....	1	.....	.....
45– 50	.....	.....	.....	2	.....	.....	1	.....	1	.....
50– 55	.....	2	.....	3	.....	2	.....	1	.....	.....
55– 60	.....	.....	.....	1	.....	.....	.....	2	.....	.....
60– 65	.....	2	1	.....	.....	.....	.....	.....	.....	.....
65– 70	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
70– 75	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
75– 80	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
80– 85	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
85– 90	.....	1	.....	.....	.....	.....	.....	.....	.....	1
90– 95	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
95–100	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
100–105	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
105–110	.....	.....	.....	.....	.....	1	.....	.....	.....	.....

table shows in a very striking way the lack of relationship between the salary of the teacher and the cost of a subject. It is clearly evident that the salary of the teacher is a factor of minor importance in determining the cost of instruction. In the table 14 high schools are indicated as paying the same average salary to their English teachers—$700 to $725—and getting their English instruction at rates which vary from $30 to $90 per 1,000 student-hours. Likewise 13 high schools are indicated as paying their English teachers salaries ranging from $675 to $900, which are at the

same time getting equal amounts of English instruction at practically the same rate—$40 to $50. One is struck by the fact, even upon a cursory examination of the table, that the actual salary paid to teachers is no reliable index of the price which a community is paying for instruction.

Tables IV and V show the relations, respectively, (1) between the cost per 1,000 student-hours of instruction and cost per class, and (2) between the cost per 1,000 student-hours of instruction and the average size of classes for the subject of English. Table IV

TABLE IV

THE RELATION BETWEEN THE COST OF 1,000 STUDENT-HOURS OF INSTRUCTION IN ENGLISH AND THE COST PER CLASS

Cost of 1,000 Student-Hours (in Dollars)	Cost per Class (in Dollars)													
	110 to 120	120 to 130	130 to 140	140 to 150	150 to 160	160 to 170	170 to 180	180 to 190	190 to 200	200 to 210	210 to 220	220 to 230	230 to 240	240 to 250
30– 35	....	....	2	1	....	....	....	....	....	....	....	....	....	....
35– 40	....	3	....	3	....	1	....	1	1	....	....	....	....	....
40– 45	1	3	1	2	2	....	....	....	....	....	....	....	....	....
45– 50	....	....	....	2	....	1	1	....	....	....	....	....	....	....
50– 55	1	1	....	....	2	2	....	3	....	....	....	....	....	....
55– 60	....	....	....	....	....	1	....	....	1	1	....	....	....	....
60– 65	....	....	....	3	....	....	....	....	....	....	....	....	....	....
65– 70	....	....	....	....	....	1	....	....	....	....	....	....	....	....
70– 75	....	....	....	....	1	....	....	....	....	....	....	....	....	....
75– 80	....	....	....	....	1	....	....	....	....	....	....	....	....	....
80– 85	....	....	....	....	....	....	....	....	....	....	....	....	....	1
85– 90	....	....	....	....	....	1	....	1	....	....	....	....	....	....
90– 95	....	....	....	....	....	....	....	....	....	....	....	....	....	....
95–100	....	....	....	....	....	1	....	....	....	....	....	....	....	....
100–105	....	....	....	....	....	....	....	....	....	....	....	....	....	....
105–110	....	....	....	1	....	....	....	....	....	....	....	....	....	....

shows the 37 high schools which are paying less than $60 per 1,000 student-hours grouping themselves in somewhat regular order along a diagonal extending from the upper left-hand corner of the table to the lower right-hand corner. For the 11 high schools which are paying more than $60 per 1,000 student-hours no relationship appears to exist between the cost of instruction and the cost per class. The former fact may be taken to indicate that within rather wide limits the cost of instruction in English increases as the cost per class increases.

Turning to Table V we find very clear evidence of relationship between the size of classes and cost of instruction. We find the high schools, as represented in the table, approximating with a marked degree of regularity a diagonal from the lower left-hand corner of the table to the upper right-hand corner, showing that as the size of classes increases the cost of instruction tends to decrease.

TABLE V

THE RELATION BETWEEN THE COST OF 1,000 STUDENT-HOURS OF INSTRUCTION IN ENGLISH AND THE AVERAGE SIZE OF CLASSES

Cost of 1,000 Student-Hours (in Dollars)	Average Size of Classes												
	10–11	12–13	14–15	16–17	18–19	20–21	22–23	24–25	26–27	28–29	30–31	32–33	34–35
30– 35	....	....	....	....	....	....	....	1	....	1	1	....	....
35– 40	....	....	....	....	....	....	1	3	1	1	1	1	1
40– 45	....	....	....	....	....	2	2	1	4	....	....	....	....
45– 50	....	....	....	....	....	....	2	1	....	1	....	....	....
50– 55	....	....	....	....	1	1	4	3	....	....	....	....	....
55– 60	....	....	....	....	....	1	....	....	1	1	....	....	....
60– 65	....	....	....	2	1	....	....	....	....	....	....	....	....
65– 70	....	....	....	....	1	....	....	....	....	....	....	....	....
70– 75	....	....	1	....	....	....	....	....	....	....	....	....	....
75– 80	....	....	1	....	....	....	....	....	....	....	....	....	....
80– 85	....	....	....	....	....	....	1	....	....	....	....	....	....
85– 90	....	....	2	....	....	....	....	....	....	....	....	....	....
90– 95	....	....	....	....	....	....	....	....	....	....	....	....	....
95–100	....	....	1	....	....	....	....	....	....	....	....	....	....
100–105	....	....	....	....	....	....	....	....	....	....	....	....	....
105–110	1	....	....	....	....	....	....	....	....	....	....	....	....

Tabulations similar to Tables IV and V have been made out for each subject, but space does not permit their reproduction here. Tabulations similar to Table III have been made out only for the subjects of English, mathematics, science, and household occupations. The reason for this was that in the high schools of West Virginia a teacher is usually a teacher of more than one subject, and that of the eleven subjects under consideration the four mentioned above are the only ones which show a tendency to differentiate as special-teacher subjects.

The correlation ratios have been computed for each tabulation. These are not reproduced because it was found that while a correlation ratio is of value in indicating the relationship between two variables it cannot be used by itself to determine the importance

of such relationship. One is obliged in every case to inspect the original tabulations and to draw his conclusions from the facts which are there portrayed.

The importance of enrolment as a factor in determining the cost of instruction.—The dependence of size of classes and cost of instruction upon the enrolment of the school is shown in Table VI. Here the high schools have been grouped, according to size, into six groups of eight each, and the median size of classes and the median cost per 1,000 student-hours of instruction have been determined for each group in the so-called required subjects. These comprise English, mathematics, science, and history, and are so designated because some work in each is required for graduation in every high school. The table should be read: In the eight high schools whose range of enrolment is 50 to 75 the median size of classes is 15 and the median cost per 1,000 student-hours is $74; and so on. The

TABLE VI

THE DEPENDENCE UPON TOTAL ENROLMENT OF SIZE OF CLASSES AND COST OF INSTRUCTION IN THE SO-CALLED REQUIRED SUBJECTS

Group	Range of Enrolment	Median Size of Classes	Median Cost per 1,000 Student-Hours
1	50– 75	15	$74
2	76– 91	20	61
3	93–118	23	52
4	120–147	23	50
5	152–256	23	48
6	275–690	25	44

table indicates that in some degree size of classes and cost of instruction are dependent upon the total enrolment of the school. The conclusion may be drawn that the enrolment of a school, when it is greater than 90 to 100, is a relatively unimportant factor in determining the size of classes and the cost of instruction; when the enrolment falls below 90 to 100 it becomes a factor of importance and presents a difficult problem to the administrator who is seeking to perfect an efficient organization.

STANDARDS

In determining the standard cost of 1,000 student-hours of instruction in the various subjects for the 48 high schools reported

in this study, the following assumptions were made: (1) that exceptional schools, or schools which are paying unusual prices for instruction, should be excluded from consideration in setting up standard costs; (2) that standard costs should emphasize an increase in the salaries of teachers.

The following method was used in determining the standard for each subject. Those high schools in which the cost in a given subject was determined in part by unusually small size of classes, or in part by the fact that classes in the subject were taught by the principal or superintendent who draws an administrative salary, were considered "exceptional" schools and their presence was not taken into consideration in determining the standard cost in that subject.[1] Excluding the exceptional schools, the average price paid per 1,000 student-hours of instruction in a given subject by the upper half of the schools—that is, the half which pay the highest prices—was taken as the standard cost for that subject.

Table VII gives for each subject the number of schools giving courses and the numbers which were and which were not considered

TABLE VII

STANDARD COSTS OF 1,000 STUDENT-HOURS' INSTRUCTION IN VARIOUS SUBJECTS

Subject	No. of Schools Giving Courses in the Subject	No. of Schools Not Considered	No. of Schools Considered	Standard Cost per 1,000 Student-Hours*
English	48	5	43	$62
Modern language	44	16	28	70
Latin	47	23	24	64
Mathematics	48	15	33	60
Science	48	14	34	64
Agriculture	23	14	9	57 (?)
History	48	17	31	60
Commercial subjects	26	17	9	60 (?)
Household occupations	35	16	19	70
Shopwork	20	11	9	67 (?)
Normal training	10	9	1	.....

* Following are given the costs per class of sizes indicated, when the rate is $65 per 1,000 student-hours and the class meets five times each week for 36 weeks for periods of 45 minutes each:

Size of Class	Cost per Class
15	$132
20	175
25	219

[1] The accepted size of classes was fifteen or larger; $1,000 and over was considered an administrative salary. The methods of determination are reported in the original study.

in deriving the standard cost. The standard cost for each subject—the average of the prices paid by the upper half of the schools considered—is shown in the last column. The standards for agriculture, commercial subjects, and shopwork are not to be taken as significant, since in each case the standard was determined by the prices paid by only four schools. No standard is given for normal training; it is obvious that one school should not determine the standard for the state.

The validity of standards.—The standards which have been set up for the various subjects should not be considered as rigid and unvarying. In the first place, no reason is apparent why the standard for mathematics should be $10 less than the standard for modern language, nor is there any apparent reason why the standard for household occupations should be $10 more than the standard for history. The seven standards which may be considered as significant—those for English, modern language, Latin, mathematics, science, history, and household occupations—may be taken to define the limits within which should fall the standards for these subjects and for the subjects of agriculture, commercial subjects, shopwork, and normal training as well. The conclusion may be drawn that the standard cost of 1,000 student-hours of instruction, set up with the double purpose in view of improving the organization of classes and raising the salaries of teachers in the first-class high schools of West Virginia, falls somewhere between $60 and $70. Schools which are paying prices higher than the standard, because of small size of classes in some subjects, should cut down their costs by improving their internal organization; schools which are paying less, because of low salaries of teachers, should increase their costs by paying their teachers higher salaries.

Secondly, what may be considered the standard or ideal cost of instruction at the present time may not be the standard five or ten years hence. On the one hand, the costs of instruction in the 48 high schools which are considered in this study may be reduced as a result of larger enrolments which permit a better organization of classes. On the other hand, the costs of instruction may be raised because of increases in the salaries of teachers, which may be expected to result from the increasing demand for teachers and the

more rigid requirements for their qualification. Standards should be set up year by year, and the method of deriving the standards should be determined by the conditions which prevail when they are set up.

The use of standards.—The attempt to adjust the costs of instruction in a high school so that they will approach a conformity with an accepted standard has its value, not so much in the results which may come from a raising or a lowering of costs as a whole, as in the results which may come from an equalization of costs. By this means the funds of a high school are distributed among the various subjects in proportion to the results which are expected from each. If ten times as many students are enrolled in English as in Latin or agriculture, for example, then approximately ten times as much money will be expended in paying for instruction in English as is expended in paying for instruction in either of the latter subjects. The reason is that ten times as much instruction is bought in the former subject as in either of the latter.

It may be argued that the use of standards in equalizing the costs of instruction may have pernicious results in that the smaller high schools will be discouraged from introducing new subjects because of the unusually high costs which result from the small demand for them. We have no data which bear upon the relative values of the different subjects of study. Whatever their relative values may be, however, it seems entirely safe to conclude that no subject for which there is not a demand sufficient to bring the cost of instruction down to a level approaching that of the other subjects has any place on a school's program. If the community's needs warrant the introduction of a new subject and the demand for the subject is lacking, then a sufficient demand should be created before the subject is introduced.

The same conclusion applies also to subjects already on a school's program which are costing for instruction prices entirely out of proportion to the demand and far in advance of the prices which are being paid for instruction in the other subjects. An examination of Table I reveals the prevalence of the practice. Schools are there shown to be paying two, three, and four times as much for instruction in modern language, Latin, agriculture, commercial subjects,

household occupations, shopwork, or normal training as for an equal amount of instruction in English, mathematics, science, or history. Varying combinations of inequality are shown. Here again it is unnecessary to enter into a discussion of the values of these subjects. It seems perfectly clear, if the value of one subject in any degree approximates the value of another, that no community has the right to pay an exorbitant price for instruction in the one at the expense of instruction in the other. Either the demand for the high-priced subject should increase, or the equipment of the school should provide for the organization of larger classes, or the subject should be abandoned until it can be reintroduced at a fair price.

CONCLUSIONS

1. The length of the recitation period is a negligible factor in determining the cost of instruction.

2. The actual salary paid to teachers is no reliable index of the price which a community is paying for instruction.

3. The cost per class is a more reliable index of the cost of instruction than is the salary of teachers, although a low cost per class does not necessarily mean that a community is getting instruction at a low rate, and a high cost per class does not necessarily mean that a community is paying a high price for instruction.

4. Of the factors which we have considered, the average size of classes is the most important factor which enters into a determination of the cost of instruction. Small size of classes may be taken invariably to indicate that a community is paying a high price for instruction; conversely, large size of classes indicates that a community is buying instruction at low rates.

5. The total enrolment of the school, when it is less than 90 to 100 is an important factor in determining the average size of classes and the cost of instruction; when the enrolment exceeds 90 to 100 it becomes a relatively unimportant factor.

6. The standard cost of 1,000 student-hours of instruction, set up with the double purpose in view of improving the internal organization and raising the salaries of teachers in the first-class high schools of West Virginia, falls somewhere between $60 and $70.